

CORPS OF INSTRUCTORS, 1920-21

CHARLES BERNARD JORDAN, Ph. C., B. S., and M. S. in Pharm., U. of Mich.
Head of School of Pharmacy, Professor of Pharmaceutical Chemistry.

WILLIAM FRANCIS GIDLEY, Ph. C., B. S. in Pharm., U. of Mich. Professor
of Materia Medica.

FRANK JOHN HELBIG, B. S. in Pharm., U. of Mich. Instructor in Pharmacy.

STANLEY COULTER, Ph. D., LL. D., Dean of the School of Science; Professor
of Biology; Director of the Biological Laboratories; Dean of Men.

PERCY NORTON EVANS, Ph. D., Head of the Department of Chemistry;
Professor of Chemistry; Director of the Chemical Laboratory.

ALFRED MONROE KENYON, A. M., Head of the Department of Mathematics;
Professor of Mathematics.

THOMAS FRANCIS MORAN, Ph. D., Head of the Department of History and
Economics; Professor of History and Economics.

HERMAN BABSON, A. M., Ph. D., Head of the Department of Modern Lan-
guages; Professor of German.

HERBERT LE SOURD CREEK, Ph. D., Head of the Department of English;
Professor of English.

GEORGE LUCAS ROBERTS, A. M., Head of the Department of Education;
Professor of Education; Director of Vocational Education.

ERVIN SIDNEY FERRY, B. S., Head of the Department of Physics; Professor
of Physics.

ROBERT GEORGE KIRKWOOD, B. S. C. E., Major Field Artillery, U. S. A.
Professor of Military Science and Tactics and Commandant of Cadets.

NELSON AUSTIN KELLOGG, B. A., Head of Department of Physical Educa-
tion; Professor of Physical Education.

LOUIS AGASSIZ TEST, B. M. E., A. C., Ph. D., Professor of General Chemistry.

EDWARD G. MAHIN, M. S., Ph. D., Professor of Analytical Chemistry.

ARTHUR RENWICK MIDDLETON, Ph. D., Professor of Inorganic Chemistry.

OLIVER PERKINS TERRY, M. S., M. D., Professor of Anatomy and Physi-
ology; University Physician.

HOWARD EDWIN ENDRIS, M. S., Ph. D., Professor of Zoology, in charge of
General Biology.

CHARLES AUGUST BEHRENS, M. S., Ph. D., Professor of Bacteriology.

LOUIS HEIMLICH, M. S., Instructor in Botany.

The School of Pharmacy also has the advantage of a large staff of instruc-
tors and assistants in the various departments of instruction listed above.

PREFATORY STATEMENT

Purdue University School of Pharmacy was established in 1884 in response to a growing demand for a thorough, practical and theoretical training in Pharmacy and related branches.

For over thirty years this School has served the people of Indiana and has always stood in the front rank of the profession.

More than eight hundred students have graduated from the School and are successfully pursuing the profession of Pharmacy, Medicine, Teaching, Analytical and Pharmaceutical Chemistry. Among its graduates are numbered many of the most prominent pharmacists and pharmaceutical chemists of the State and Nation.



Pharmacy Building

The School has kept pace with the other departments of the University and with pharmaceutical developments in the extension and perfecting of its instruction and facilities and now offers superior opportunities to those who wish to train themselves thoroughly for the important duties of the professional or manufacturing pharmacist, the pharmaceutical chemist, or the retail pharmacist.

The entrance requirements and class instruction in this School are on the same footing as those required in the other departments of the University. This department thus offers the same opportunities for study and attainment as any other in the institution, and its members participate in all the privileges and responsibilities of the entire University.

The requirements of the Pharmacy Laws of Indiana are more than satisfied by the training furnished in this School.

WOMEN IN PHARMACY

This last half century has witnessed the advent of women into all the professions and most of the callings that are open to men, and they have proven conclusively that they are able to take their places in the field of labor with the male members of society.

In foreign countries the women have entered even the most menial callings and are acquitting themselves admirably. Fortunately the American women have splendid opportunities for choosing their calling as the urgency is not so great here as in Europe.

There is no field that offers greater opportunities for women than Pharmacy. The work is clean, pleasant, and agreeable and one that a scientifically trained woman is well fitted to do. Women in Pharmacy have long ago passed the experimental stage, as many of them are successfully conducting their own stores, and many others are ably doing the work of the dispensing laboratory. In fact, they have become so important in this work that they have their own section in the National Association, known as the Woman's Section of the American Pharmaceutical Association.

Never has there been such a demand for skilled pharmacists, and never has the recompense been as great. There was a scarcity of pharmacists before we entered the war, and this has been increased rather than diminished. We have received many calls for lady pharmacists.

What is true in retail pharmacy is also true in analytical laboratories. There is a great demand for analytical chemists, food and drug analysts, bacteriologists, and public health workers. Women are competent to do all of this work if they have received the necessary scientific training. We have graduated many ladies who have acquitted themselves excellently in their profession. Ladies constitute over ten per cent of our present student body. The Purdue School of Pharmacy offers



Biology Building

splendid opportunities for ladies to secure a scientific training, and will gladly welcome any who wish to avail themselves of the unusual opportunities that pharmacy offers them.

ADMISSION TO THE UNIVERSITY

Scholastic preparation, as secured by the completion of a systematic plan of study four years in length such as is furnished by the Commissioned High Schools of Indiana, or other schools of equivalent grade, is essential to a student who wishes to enter upon a college course of study. Experience shows that one of the chief causes of failure in college classes is lack of preparation; and many applicants who have had good school opportunities are found to be deficient in their knowledge of preparatory mathematics, and particularly in their ability to use the English language. A thorough working knowledge, therefore, of the preparatory subjects is absolutely necessary in order to begin and carry on the prescribed work of the University, and it is manifestly unfair to the applicant himself to admit him to University study if the record of his High School work does not demonstrate that his preparation is sufficient to accomplish his University work successfully. The University classes begin where the preparatory work of the High School ends and there is no opportunity after entering the University to make up those deficiencies which the student may have incurred in his preparation. *On this account, applicants who do not satisfy all the stated entrance requirements will not be received into the University.*

Requirements for Admission to the Freshman Class in Agriculture, Science, Pharmacy or Engineering

All applicants must be at least sixteen years of age and must furnish certificates of good character.

The requirements for admission to the Freshman class in all the departments of the University are as follows:

1. The applicant must have completed fifteen units of High School work, a unit representing five recitations a week for a school year of not less than eight months.

2. (a) The applicant will in all cases be required to submit seven units in the following prescribed subjects:

English	3 units
History	1 unit
Algebra	1 unit
Plane Geometry	1 unit
Science (Botany, or Chemistry, or Physics, or Zoology)	1 unit

In addition to the above for admission to any of the Engineering Schools of the University—

Algebra	$\frac{1}{2}$ unit
Solid Geometry	$\frac{1}{2}$ unit

(b) The remaining units necessary to make up the required fifteen units may be offered from the following subjects:

English, Foreign Languages, Mathematics, Science, History, Economics and Sociology.

(c) Or, the applicant may offer preparation in vocational subjects, viz.: Agriculture, Home Economics, Industrial Arts and Commercial Subjects, as follows:

From Approved Vocational Schools or Departments..... $\frac{1}{2}$ to 5 units

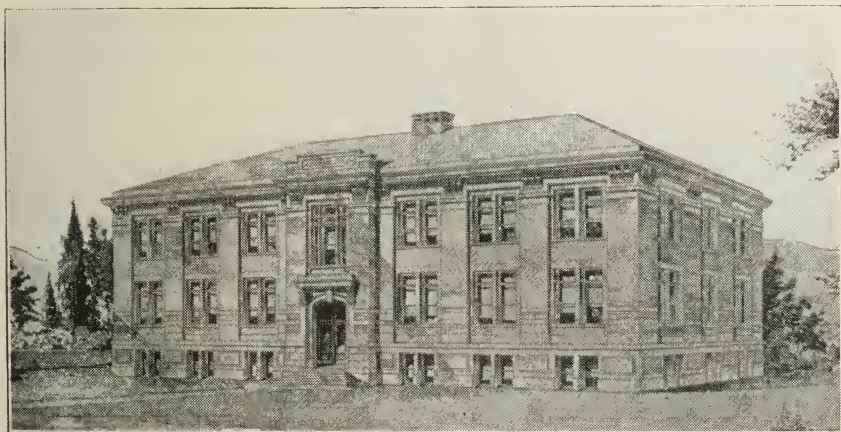
From Commissioned High Schools..... $\frac{1}{2}$ to 3 units

3. Those who are unable to meet the above requirements will not be admitted to the University.

Application for Admission

All persons who desire to enter any department of the University should make application to the Registrar as early as possible before the opening of the first semester, (September 14, 1921). Those who desire to be admitted by certificate should make application as soon as possible after their graduation from the High School. A blank form may be secured by addressing the Registrar. This should be filled out and filed with the Registrar as early as possible in advance of entrance.

Early attention to this matter will save the student much delay and embarrassment at the opening of the semester.



Chemistry Building

Admission by Certificate

Graduates of Commissioned High Schools and Approved Vocational Schools or Vocational Departments of Indiana, and of schools of like standing in other States, will be admitted at the opening of the first semester without examination on the basis of credentials certifying to their age, character, scholarship, and graduation, provided that these credentials

cover the requirements for admission, as stated above. This certificate must give in detail concerning each subject which the applicant has studied in school, the length of time in weeks, the number of hours per week, and the grade or mark indicating his proficiency. The blank form for this certificate will be supplied to the school authorities by the Registrar. The school diploma is not acceptable in place of the certificate.

A Commissioned High School or an Approved Vocational School or Vocational Department is one which under the rules of the Indiana State Board of Education attains certain prescribed standards of equipment, teaching force, and efficiency; and administers in a satisfactory manner a four-year plan of study in advance of eighth-grade or Grammar School studies, and requires for graduation the completion of sixteen units of work.

Admission by Examination

Applicants who are not graduates of standard High Schools, as above described, will be required to take entrance examinations equivalent to the High School course. Such examinations are administered by the College Entrance Examination Board in the principal cities of the United States and Canada on June 20-25, 1921. Applications for the examination must be made on or before Monday, May 23, 1921, and addressed to the Secretary of the College Entrance Examination Board, 431 West 117th Street, New York, N. Y. The examination fee of \$6.00 should be remitted by Postal Order, Express Order, or draft on New York, payable to the order of the College Entrance Examination Board.

Further information as to this examination may be had on application to the Registrar of Purdue University or to the Secretary of the Examination Board, as above.

Admission to Advanced Standing

The following requirements are established for admission to advanced standing:

1. The submission of a letter of honorable dismissal from the institution last attended.
2. A certificate of preparatory work covering the entrance requirements listed on page 6.
3. An official transcript of the record of all the work done in institutions previously attended. Personal consultation with the applicant will be required where the credentials are not sufficiently definite.
4. A marked catalog showing the courses referred to in the transcript.
5. For credit in Practical Mechanics, a letter from the previous instructor relating to work performed in Shop Work and Drawing should be submitted.

Credit for courses in Purdue University will be given on account of work of equivalent character and amount successfully done in other colleges. On the basis of these credits advanced standing will be determined.

Advanced credit will be regarded as provisional, and may be withdrawn if dependent work is not satisfactorily done.

Credits for work in secondary schools will be given only on the basis of an examination for advanced standing. Such credit will not count toward graduation if the underlying work has been used to meet the entrance requirements of the University.

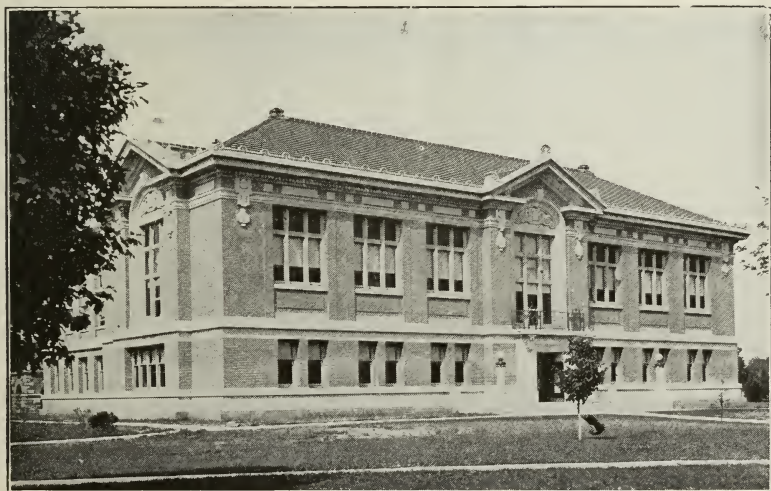
Admsision of Special Students

Only in exceptional cases will students be admitted to specially arranged courses of study, and then only when the age, experience, and purposes of the applicant are obviously different from those of the ordinary student. Application for admission as a special student should be made upon a prescribed blank form after consultation with the proper Dean, should be addressed to the Chairman of the Committee on Special Students, and should state (1) the applicant's age; (2) his school preparation; (3) his practical experience; (4) a plan of study enumerating the subjects he desires to take; (5) the purpose or end expected to be accomplished by his study. Such application will be submitted to a committee of the Faculty for investigation.

Time of Entrance

Save in exceptional cases, students enter the University at the beginning of the first semester. It is impracticable to enter later in the year unless the applicant has completed in another college the work done by the classes previous to the date of his admission.

In 1921, the registration days will be Saturday, Monday, Tuesday and Wednesday—September 10th, 12th, 13th and 14th. An extra fee of \$2.00 will be collected of students who register after the registration days of either semester.



Library

EXPENSES

Purdue University is a State institution, therefore the Trustees grant free tuition to all students entering from the State of Indiana. All others are required to pay an annual tuition fee of thirty-five dollars.

Following is a classified statement of all necessary expenditures of students so far as the requirements of the University are concerned:

1. Fixed University Fees.

First Semester fees are payable on registration in September. Second Semester fees are payable the last week in January. Students **entering** at the beginning of the second semester pay fees listed below for the first semester.

	First Semester	Second Semester
Entrance fee, \$5.00, payable annually on matriculation.....	\$ 5.00	
Tuition fee, for students from without the state, \$35.00 per annum.....	18.00	\$17.00
Incidental fee, \$10.00 per annum	5.00	5.00
Laboratory and library fees, \$35.00 per annum.....	18.00	17.00
Medical and infirmary fee, \$1.00 per annum.....	1.00	

Diploma fee, \$5.00, payable on the Saturday preceding graduation.

Payment must be made in cash or by bank draft, express order or postoffice order. No personal checks will be accepted. By order of the Board of Trustees no fees are returnable after registration.

2. University Deposits.

To cover breakage of apparatus used in laboratory courses, students are required to deposit in advance certain sums as indicated below. Any portion of this deposit not consumed is refunded at the end of the year.

Laboratory courses in **chemistry**, per annum.....\$ 5.00

When more than one such course is taken, \$5.00 per semester.

Laboratory courses in **pharmacy**, per annum..... 10.00

It is expected that the War Department of the U. S. Government will supply uniforms without cost, for use in military drill. In such case, male students entering the freshman or sophomore classes without credit for military instruction will be required to make a deposit to cover damage to uniform and equipment.

3. Personal Expenses (Estimated).

Table board, per week, average.....	\$ 6.50
Room rent, heat and light, 2 in a room, each, per month, average.....	10.00
Washing, per week	.75
Books, instruments and supplies, per annum.....	\$20.00 to \$40.00

Second-hand books are often obtainable at reduced prices.

County Appointments.—The law of Indiana provides for the appointment of not to exceed two (2) students from each county in the State, who upon entering Purdue University, shall be exempt from the payment of certain entrance and incidental fees, amounting to \$15.00 per annum, but not from library and laboratory fees. Students seeking such appointments will carefully note the following:

1. These appointments are made annually by the Commissioners of the various counties, to whom application therefor should be made. The appointee must reside in the county from which the appointment is made. The appointment expires June 30th, but may be renewed.

2. The certificate of appointment should be filed with the University as soon as received by the appointee, as the appointment cannot be recognized until this is done. It becomes effective at the beginning of the semester next after it is filed.

3. This appointment does not apply to, nor relieve the applicant from, the requirements as to scholarship demanded for entrance to the University classes.

Prospective students, who cannot secure such appointments because the quota from the county is already filled, should not defer entering the University on that account, since the saving of money is not sufficient to offset the loss of time caused by waiting one or more years.

PLANS OF STUDY

The School of Pharmacy offers two Plans of Study giving superior opportunities to those who wish to train themselves thoroughly for the important duties of the professional or manufacturing pharmacist, the pharmaceutical chemist, or the retail pharmacist.

Two-Year Plan of Study

This plan of study leads to the Degree of Graduate in Pharmacy and is intended to fit students for the practice of Pharmacy, including the preparation of medicine, the compounding of prescriptions, and the chemical and microscopical examination of medicinal materials. The plan of study includes the professional courses set forth in the National Pharmaceutical Syllabus, and in addition, a thorough grounding in the sciences of biology and chemistry, upon which pharmacy is so largely based. The number of hours of instruction given far exceeds the number required in the Syllabus.

FIRST YEAR

First Semester

Courses	Hrs. per wk.
Plant Histology	2 Lect. 2 Lab.
Physiology	3 Lect.
Gen. Chemistry	3 Lect. 3 Lab.
English	3 Lect.
Materia Medica	2 Lect. 1 Lab.
Gen. Pharmacy	2 Lect. 4 Lab.
Pharm. Arithmetic	2 Lect.
Military Training	5 Hrs.

Second Semester

Courses	Hrs. per wk.
Pharm. Botany	2 Lect. 2 Lab.
Gen. Chemistry	3 Lect. 3 Lab.
English	3 Lect.
Materia Medica	2 Lect.
Gen. Pharmacy	2 Lect. 4 Lab.
Qual. Analysis	2 Lect. 6 Lab.
Pharm. Latin	1 Lect.
Military Training	5 Hrs.

SECOND YEAR

First Semester

Courses	Hrs. per wk.
Bacteriology	2 Lect.
Posology and Therapeutics.....	2 Lect.
Quant. Analysis	2 Lect. 6 Lab.
Incompat. and Org. Anal.....	1 Lect. 3 Lab.
Organic Chemistry	4 Lect.
Prescript. Practice	1 Lect. 3 Lab.
Commercial Pharmacy	3 Lect.
Military Training	5 Hrs.

Second Semester

Courses	Hrs. per wk.
Bacteriology	2 Lect.
Pharmacology and Tox.....	2 Lect.
Chem. Preps. and Drug Assay.....	2 Lect. 6 Lab.
Materia Medica	4 Lect.
Microscopy	1 Lect. 3 Lab.
Prescript. Practice	1 Lect. 3 Lab.
U. S. P. & N. F.	2 Lect.
Pharm. Jurisprudence	1 Lect.
Military Training	5 Hrs.

Four-Year Plan of Study

This Plan of Study leads to the Degree of Bachelor of Science in Pharmacy, and is intended to fit students for responsible laboratory positions with the State or Government, for the laboratory work of city chemists and bacteriologists, or for the duties of pharmaceutical chemists for manufacturing establishments, wholesale houses and importers. Recent pure food and drug legislation has created many such positions.

The demand made upon this School for laboratory workers far exceeds the supply. Men whose education has been broad and general supplemented with professional training are much in demand. The Four Year Plan of Study offers excellent opportunities to secure this training.

Electives are offered to prepare students for teaching positions.

FRESHMAN YEAR

First Semester

Courses	Hrs. per wk.
Plant Histology	2 Lect. 2 Lab.
Gen. Chemistry	3 Lect. 3 Lab.
English	3 Lect.
Materia Medica	2 Lect. 1 Lab.
Mathematics	3 Lect.
Gen. Pharmacy	2 Lect. 4 Lab.
Pharm. Arithmetic	2 Lect.
Military Training	5 Hrs.

Second Semester

Courses	Hrs. per wk.
Pharm. Botany	2 Lect. 2 Lab.
Gen. Chemistry	3 Lect. 3 Lab.
English	3 Lect.
Materia Medica	2 Lect.
Mathematics	3 Lect.
Gen. Pharmacy	2 Lect. 4 Lab.
Pharm. Latin	1 Lect.
Military Training	5 Hrs.

SOPHOMORE YEAR

First Semester

Courses	Hrs. per wk.
Physics	4 Lect.
Qual. Analysis	2 Lect. 6 Lab.
English	3 Lect.
*German or French	3 Lect.
Organic Chemistry	4 Lect.
Military Training	5 Hrs.

Second Semester

Courses	Hrs. per wk.
Physics	4 Lect.
Qual. Analysis	2 Lect. 6 Lab.
English	3 Lect.
*German or French	3 Lect.
Adv. Org. Chemistry	2 Lect. 6 Lab.
Military Training	5 Hrs.

JUNIOR YEAR

First Semester

Courses	Hrs. per wk.
†Physiology	3 Lect.
Quant. Analysis	2 Lect. 6 Lab.
German or French	3 Lect.
History	3 Lect.
Incompat. and Org. Anal.	1 Lect. 3 Lab.

Second Semester

Courses	Hrs. per wk.
Physiology	3 Lect.
Quant. Analysis	2 Lect. 6 Lab.
German or French	3 Lect.
Microscopy	1 Lect. 3 Lab.
Chem. Preps. and Drug Assay ..	2 Lect. 6 Lab.

ELECTIVES

Electives for the year must total at least eight semester hours.

Adv. Bacteriology	2 Lect. 4 Lab.
Education	3 Lect.
French or German	3 Lect.
Adv. Mathematics	3 Lect.
Physics	4 Lect.
Physiological Chem.	1 Lect. 3 Lab.
Animal Histology	2 Lect. 4 Lab.

Adv. Bacteriology	2 Lect. 4 Lab.
Education	3 Lect.
French or German	3 Lect.
Adv. Mathematics	3 Lect.
Physics	4 Lect.
Physiological Chem.	1 Lect. 3 Lab.

SENIOR YEAR

First Semester

Courses	Hrs. per wk.
Economics	3 Lect.
Posology and Therapeutics ..	2 Lect.
Food and Drug Anal.	1 Lect. 6 Lab.
Prescript. Practice	1 Lect. 3 Lab.
Commercial Pharmacy	3 Lect.

Second Semester

Courses	Hrs. per wk.
Materia Medica	4 Lect.
Pharmacology and Tox.	2 Lect.
Food and Drug Anal.	1 Lect. 6 Lab.
Prescript. Practice	1 Lect. 3 Lab.
U. S. P. & N. F.	2 Lect.
Pharm. Jurisprudence	1 Lect.

ELECTIVES

Electives for the year must total at least eight semester hours.

Adv. Bacteriology	2 Lect. 4 Lab.
Physical Chem.	3 Lect.
Adv. Quant. Anal.	2 Lect. 6 Lab.
Education	3 Lect.
French or German	3 Lect.
Physiological Chem.	1 Lect. 3 Lab.
Adv. Pharm. Chem.	2 Lect. 6 Lab.
Animal Histology	2 Lect. 4 Lab.

Adv. Bacteriology	2 Lect. 4 Lab.
Physical Chem.	3 Lect.
Adv. Quant. Anal.	2 Lect. 6 Lab.
Education	3 Lect.
French or German	3 Lect.
Physiological Chem.	1 Lect. 3 Lab.
Adv. Pharm. Chem.	2 Lect. 6 Lab.
Adv. Microscopy	1 Lect. 3 Lab.

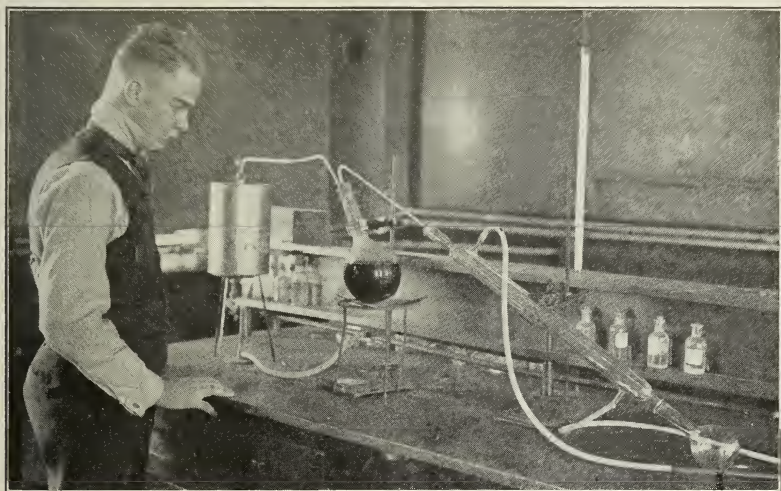
* The Language selected must be pursued for two years.

† In 1922-23 Juniors will take Bacteriology in place of Physiology.

PHARMACY*

The work in Pharmacy at Purdue is considered the most important branch of the course. For this reason no means have been spared to completely equip the Pharmacy laboratories, and the work is made thoroughly practical. Every phase of pharmaceutical technique is taught by practical laboratory work. The Pharmacy courses are designed to fit the student to meet every demand that may be made upon him, as a dispenser of drugs in a retail store or a dispensary, or in any other establishment where drugs and medicinal preparations are manufactured, tested, or dispensed.

The student is not merely taught a great number of manipulative processes, but he is taught the fundamental theories of such processes. Therefore, the courses in Pharmacy are both practical and theoretical, composed of lectures, recitations, quizzes and laboratory work.

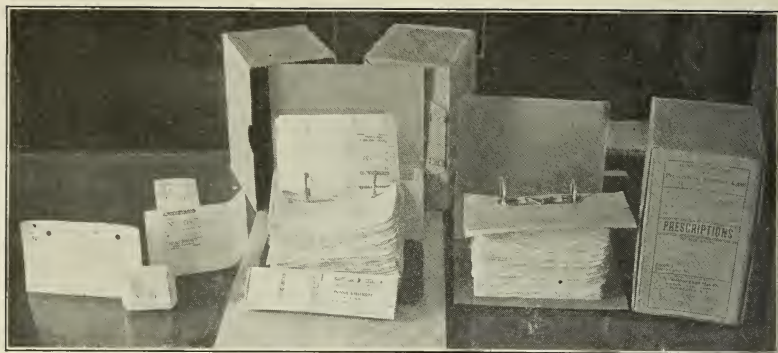


Steam Distillation of Peppermint

Beginning Pharmacy.—In the beginning course in Pharmacy, the first few weeks are spent in studying such fundamental properties of substances as melting point, boiling point, solubility, specific gravity, etc. Also, the application and effect of heat and cold upon substances in relation to pharmaceutical processes are studied. These properties of matter and a number of others so important for the best understanding of operative pharmacy are studied by actual laboratory experiment.

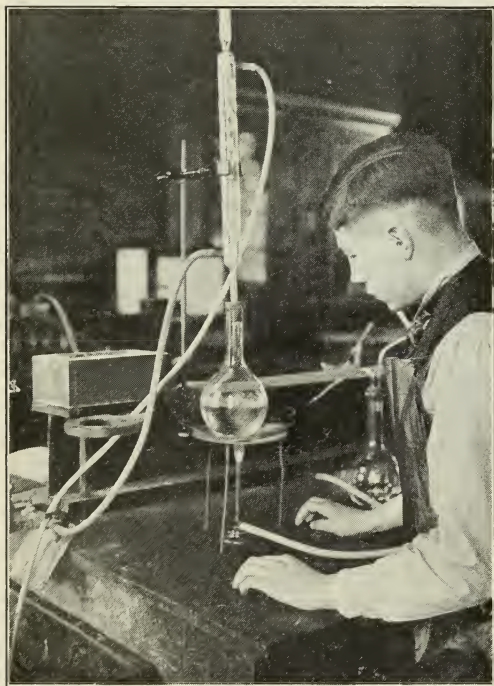
After the student has learned these elemental properties of substances, he is then directed in the making of U. S. P. and N. F. preparations. By the end of the first year, the student has had to make every practical type of pharmaceutical preparation. The student not only

*See the general catalog for a detailed description of the courses.



Prescriptions and Files

makes the preparations, but he is directed in the exercise of the best and most efficient operative processes. This feature is exceedingly practical and very helpful. During the first year's work each student is required to make at least one hundred preparations and may make as many more as he wishes.



Purification of Alcohol by the U. S. P. Method

Prescription Practice.—

The second year's work in Practical Pharmacy is work in the dispensing and prescription laboratory. At Purdue, students have an unusual advantage by having the opportunity of working in one of the most modern and best equipped dispensing laboratories in the country. Each student is directed in the filling of many practical and complex prescriptions that have been collected from the files of a great number of stores in Indiana and other states. The problem of incompatibilities is studied with great emphasis and is never lost sight of in any work with

prescriptions. In this work the student is also taught proper systems of filing, numbering and checking prescriptions.

In addition to this practice work, our prescription department fills prescriptions, written by the University Physician, for students free of charge to the student. Regular hours each day are set aside for filling these prescriptions. These are filled by Senior students under direct

supervision of a registered pharmacist. Therefore, no student graduates in Pharmacy at Purdue without having had actual practical experience in the compounding of physicians' prescriptions. This is a big factor in a man's qualifications when he goes out as a graduate in Pharmacy.

Toilet Preparations.—A few weeks at the end of this course in practical Pharmacy are spent in the manufacture and study of toilet preparations. While the time spent in this phase of the work is brief, yet the student learns many practical formulas and their manufacture.

Commercial Pharmacy.—The course that has been most recently added to the curriculum at Purdue is the course in Commercial Pharmacy.



Apparatus for Infusions and Decoctions

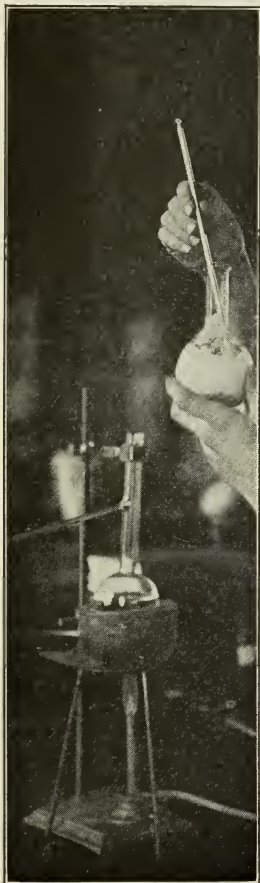
This is a course of interest and growing importance. It bears directly upon the problems of the retail pharmacist. Every effort is being made to build this course up in accordance with problems and demands of the retailer. The Library books for this course have been selected with great care, and the students are made to become familiar with the best works upon the various phases of retail problems.

The course deals with the many problems of store management as buying, pricing, inventory, discounts, proper methods of figuring profits, etc. The problems of store location, classes of trade, clerks, etc., are studied. The problems of salesmanship and advertising are studied at great length. The object of the course is to guide the student along the proper lines of thought regarding these subjects and to point out some of the underlying principles of successful retailing. In conjunction with this course experts in advertising, salesmanship, banking, insurance, etc., are brought to the school to lecture upon these many important phases of good business. This is a helpful and valuable feature of the work.

Pharmaceutical Arithmetic.—No pharmacist is a safe dispenser if he is not able to make mathematical calculations incident to compounding. It is important that he be able to calculate dose, prepare percentage solutions, reduce and enlarge formulae, and calculate volume and weight. A

course in Pharmaceutical Arithmetic consisting of two lecture and recitation hours per week for one semester is required of all Pharmacy students.

In this course instruction is given which deals with all mathematical calculations incident to practical pharmacy. The course is made thoroughly practical by frequent use of State Board problems.



Testing the Accuracy of
a Thermometer

Pharmaceutical Latin.—This course is designed to acquaint the student with the system of pharmaceutical nomenclature. It is absolutely necessary that there be some system in the naming of drugs, chemicals, and preparations. This course teaches the proper English pronunciation and latinization of U. S. P. and N. F. preparations. The student is also taught prescription Latin that he may be able to correctly interpret Latin terms and abbreviations as found in physicians' prescriptions. This work is supplemented with the reading of a large number of complex and varied prescriptions collected from various sources. The application of this course, which is offered in the first year, is made in the course in dispensing and prescription practice.

United States Pharmacopoeia and National Formulary Study.—In the last part of the last year of the student's course a critical study and review of the U. S. Pharmacopoeia and National Formulary, and a study of recent contributions to pharmaceutical literature is given.

Since in the U. S. P. and N. F. all phases of Materia Medica, Dosage, Chemistry, Testing, Assaying, Pharmacy, etc., appear, the course is extremely practical as review study for all pharmaceutical work.

Chemical Preparations and Drug Assay.—

This course consists of two lectures and six laboratory hours per week for one semester. The students prepare the more difficult chemical

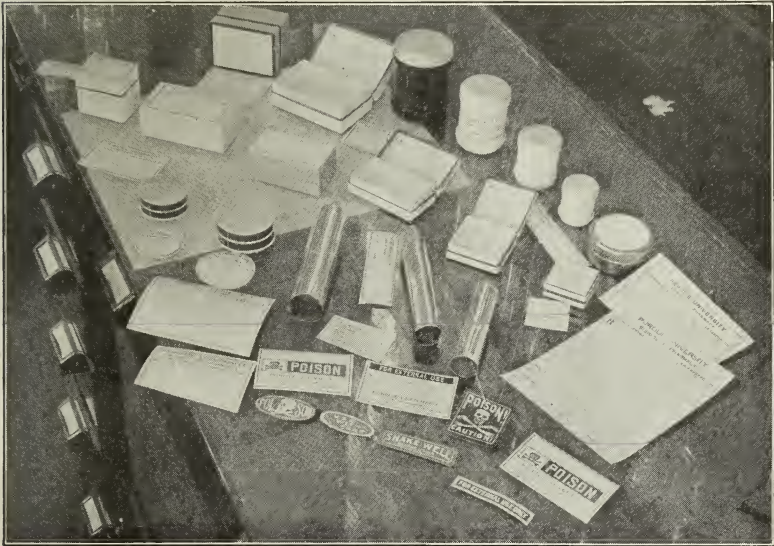
preparations of the U. S. P. and N. F. and they assay them by the official methods.

Crude drugs, fluid and solid extracts, tinctures, elixirs, syrups, tablets, pills, etc., are subjected to alkaloidal analysis. The active constituents of pharmaceutical preparations, and of volatile oils, are determined. The lectures include a discussion of physiological methods of drug assay.

Pharmacists, who have had this course, are prepared to assay the pharmaceutical preparations that they manufacture and thus meet the requirements of the Food and Drug Laws. There is a great demand today for drug chemists and this course with the fundamental courses in Chemistry, prepares for the work of national, state, and private drug laboratories.



Apparatus for Making Suppositories



Showing Labels and Containers Used in Prescription Work

MATERIA MEDICA*

Materia Medica is the science of the knowledge of agents used in medicine and, since such knowledge has many angles and such agents are of great diversity, the general subject naturally subdivides easily. Such subdivisions may differ in name and character, but to cover the field thoroughly no little time will suffice.

*See the general catalog for a detailed description of the courses.



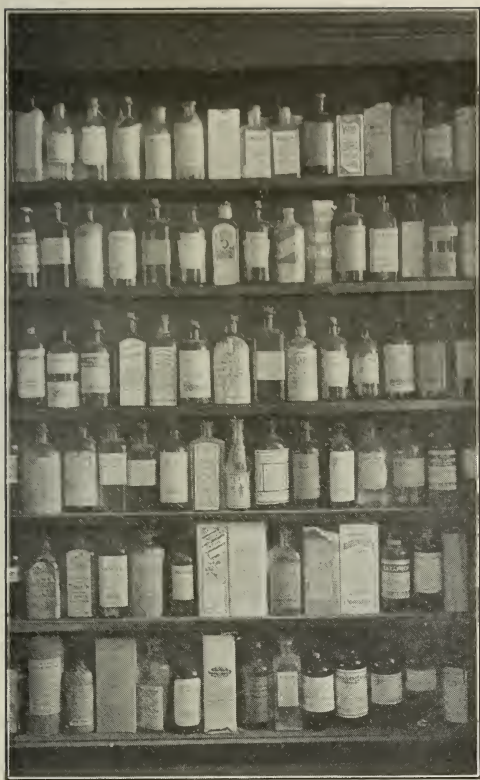
Pharmaceutical Products

The great importance of *Materia Medica* to the pharmacist is self-evident. He is continuously handling and dealing with agents used in medicine. He cannot know too much concerning them—their strengths, keeping qualities, proper colors, proper tastes, solubilities, common adulterants, various names, abbreviations, reactions, sources, uses, doses, etc. All pharmacy students pursue *Materia Medica* subjects continuously for two school years.

Vegetable *Materia Medica*.—This line of study is fundamental in pharmaceutical education and therefore of great importance. All the valuable and common vegetable drugs are studied in detail, with special attention given to Latin and common names, habitats, general characteristics, active constituents, and adaptability for medicinal use. Students must learn to identify these crude drugs in their original form as well as otherwise. Throughout the time students are in the University these drug samples are accessible for study or review.



Showing Some Active Constituents of Crude Drugs



Some of the Proprietary Medicines Studied in
Modern Materia Medica

Biological and Chemical Materia Medica.—In these courses animal drugs such as pepsin, codliver oil, lard, wool-fat, etc.; inorganic drugs such as copperas, Rochelle salts, sugar of lead, silver nitrate, etc., are studied carefully. The work is not hurried but proceeds systematically. Samples of everything studied are accessible throughout the student courses.

Microscopy of Powdered Drugs.—This course is a study of the microscopic features of powdered drugs. The microscope is being more and more resorted to in the analysis of powdered drugs and foods. It is within the reach of every pharmacist to be the microscopist of his community. For this and other reasons, pharmacy students at Purdue are instructed in the examination of powdered crude drugs and foods. This course covers the microscopic study

of starches and U. S. P. powdered drugs and their adulterants. The number of substances studied in the course are necessarily limited, but the selection is made to present a wide variety of microscopical features, and the technique involved fits the student for any further individual study he may wish to pursue. This work, in addition to the work in Bacteriology and Food Analysis, will fit a student for positions in food, chemical and inspection laboratories, where the microscope is final in many analyses. It is preceded by a course in Biology given in the first year's work.

Economic and Modern Materia Medica.—The druggist's prescription shelf is a veritable maze of modern, new and non-official synthetic remedies of good, bad and indifferent qualities.

The well trained pharmacist should know considerable about this stock, and be informed, as well, where he can find out when he doesn't know about it. These newer remedies form the basis of this course.

A study is made of the methods of selecting, valueing, packing and preserving drugs.

Pharmacology and Toxicology.—This course is designed to give the young pharmacist a concise survey of the modern conceptions and

knowledge of drug action. No pretension is made to fit him for prescribing in the treatment of disease. But it is highly important in successful prescription practice that the pharmacist sense the therapeutic intention of the doctor's prescription to be able to co-operate with him in getting the exact effect desired,—therefore, this course. Demonstrations of physiological action of drugs are given.

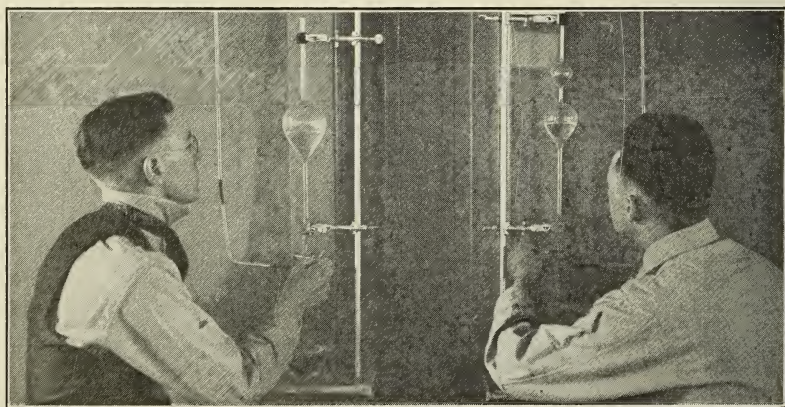
In this course ample training is given in the knowledge of poisons, their action and antidotes. This work is of the highest importance to pharmacists, working as they do, always in the shadow of a possible serious mistake.

Posology and Therapeutics.—The science of posology or dosage is much more comprehensive and exacting from the pharmaceutical than from the medical standpoint. The dose of every item on a prescription must be safe and the law holds the pharmacist responsible for such safety, and not the doctor who wrote the prescription. The pharmacist must then have careful and thorough training in dosage and such training is here given. The uses of drugs is also taught in this course.

CHEMISTRY*

A thorough understanding of the science of chemistry is essential to a course in Pharmacy as the pharmacist deals with chemicals, both simple and complex. Many of the incompatibilities met with in prescription compounding are of a chemical nature, and, in the making of many of the pharmaceutical preparations, chemical reactions are involved, therefore the pharmacist should be well grounded in this very important science.

The many branches of chemistry are taught at Purdue, including General Chemistry, Qualitative and Quantitative Analysis, Organic Chemistry, Drug Assay, Physiological Chemistry, Physical Chemistry,

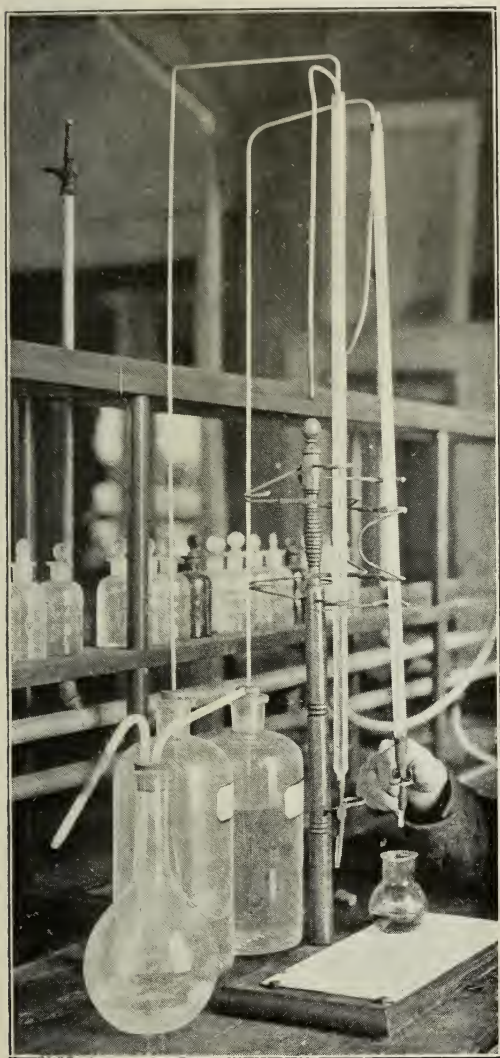


Calibration of Flasks

*See general catalog for a detailed description of the courses.

and Food and Drug Analysis. In teaching these subjects, direct application is always made to pharmaceutical practice wherever possible.

The students of the Two-Year Course in Pharmacy receive instruction



Final Steps in the Assay of Belladonna for Atropine

for one year in General Chemistry, and one-half year in each of the following: Qualitative Analysis, Quantitative Analysis, Organic Chemistry, Drug Assay, and Organic Qualitative Analysis. The students of the Four-Year Course receive the above mentioned instruction and in addition further instruction in qualitative and quantitative analysis, organic chemistry and one year of Food and Drug Analysis, and may elect one year of Physiological Chemistry and one year of Physical Chemistry.

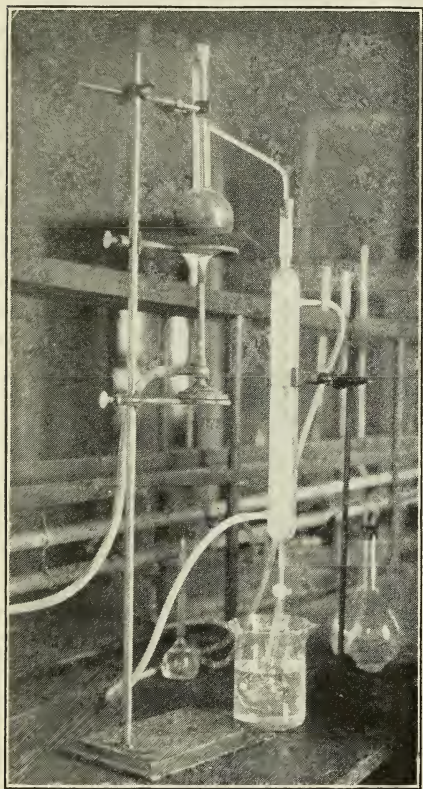
General Chemistry.—instruction in General Chemistry consists of lectures and laboratory work and is required of all pharmacy students. The course is administered in the Chemistry Department and the pharmacy students enter the class with chemical engineers, science and agriculture students. Thus in this course and in others, the pharmacy students brush shoulders with the other students of the University and receive the benefits that are to be derived from such contact. A large, well equipped laboratory is provided for this instruction.

The lectures deal with the elements and compounds and the fundamental theories of the science. They are illustrated by experiments. The laboratory work follows the lectures closely and is largely quantitative in character. Here the student learns how to detect acid radicles such as chlorides, bromides, iodides, sulphates, carbonates, etc.

Qualitative Analysis.—For the student of the Two Year Course this work is administered in the Pharmacy Department and consists of lectures and laboratory work for one-half year. It is a general study of metals and of qualitative analysis. The lectures deal with the theories of qualitative analysis, and the practical methods of separation and identification of metals and acid radicles. In the laboratory a number of unknown mixtures both in liquid and solid form, are analyzed. Since this

course is administered to Pharmacy students only, the particular needs of the dispensing laboratory are kept constantly in mind and attention is called to all reactions that may constitute incompatibilities in prescription compounding. Tablets, tablet triturates, pills, and other pharmaceutical preparations are qualitatively tested in the laboratory.

For the student of the Four-Year Course, the work is administered in the Chemistry Department, and consists of lectures and laboratory work for one year. The lectures deal with underlying principles of analysis, particularly the application of the theories of electrolytic dissociation and chemical equilibrium. The laboratory work consists of the identification of the common minerals and acid radicles by the most approved methods.



Determination of Alcohol in a Fluid Extract

Quantitative Analysis.—The course in quantitative analysis for the Two-Year students consists of lectures and laboratory work for one-half year. This course is administered in the Pharmacy De-

partment to Pharmacy students only, therefore special attention is given to the methods involved in Drug Assay. The lectures deal with the theories and practical technique of analytical determinations. In the laboratory, quantitative analysis of compounds and pharmaceutical preparations are made, illustrating the gravimetric, volumetric, and gaseometric methods of the U. S. P.

The course in quantitative analysis for the Four-Year students is administered in the Chemistry Department and consists of lectures and laboratory work for one year. This is a study of quantitative analysis, both gravimetric and volumetric, including electrolytic methods. Special

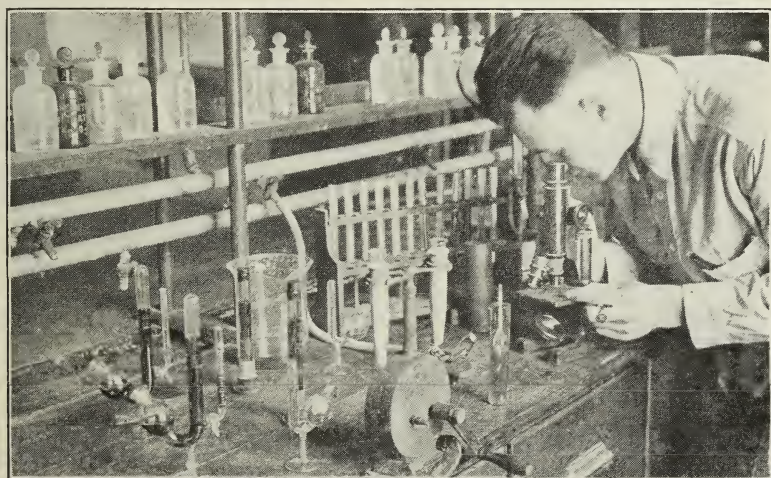
attention is given to the theory and general principles as essential for accurate work.



Polariscopic Estimation of Spirit of Camphor

notic; if this group is displaced by a certain other the compound is a vasodilator, or a cardiac depressant, or a cerebro-excitant, etc.—the science of chemo-therapy. A trained pharmacist should understand *why* aspirin is an acid, and *why* carbolic “acid” is not an acid at all; *why* menthyl salicylate and salol are both esters, although one is a liquid while the other is a solid; *why* benzoic acid crystals appear in benzaldehyde and the result of same; or *why* trioxymethylene—a solid—can be made to furnish formaldehyde—a gas.

It is all intensely interesting and highly practical. Ample time is given to the teaching of the subject of Organic Chemistry and the field is carefully covered.



Analyzing a Sample of Urine

Organic Chemistry.—Organic drugs are occupying a constantly increasing proportion of the drug field. In our new U. S. Pharmacopoeia two new vegetable drugs were added and a long list of vegetable drugs were discarded, while a still longer list of organic drugs were added to that authority. Synthetic organic drugs having definite physiological action can now be made to order. A certain group is added onto the molecule here and the compound is a hyp-

Advanced Organic Chemistry.—In this course the laboratory practice of organic chemistry is emphasized. The student goes into the laboratory and makes and purifies organic chemicals such as ethyl chloride,



Analysis of Sweet Spirit of Nitre

acetanilid, urotropin, acetone, lactic acid, diazo and azo dyes, toluene, glycerin, benzoic acid, salicylic acid and its methyl derivative, urea, chloral hydrate, etc.

Lectures and theory precede these exercises.

Incompatibilities and Organic Qualitative Analysis.—This course is planned to prepare the student to understand organic incompatibilities, to be able to analyze urine, and to identify the most important alkaloids by well-defined qualitative tests. The course consists of lecture and laboratory work for one semester. In the laboratory the students apply qualitative tests for organic compounds and study the incompatibilities that may be expected. The following reactions are typical: The action of a ferric salt upon a salicylate and a benzoate, the action of strong bases on chloral, the identification of methyl alcohol in grain alcohol, etc.

Urinalysis.—The students make a practical analysis of a sample of urine, detecting the following points: Color, odor, and general appearance,

reaction, specific gravity, qualitative and quantitative determination of albumin and sugar, microscopical examination of the sediment, etc. When they have completed this work, they are qualified to make the tests usually called for by physicians.

In the study of alkaloids they are taught how to isolate and identify the common alkaloids. The "shaking out" process is thoroughly explained and the students perform it many times. Such incompatibilities as arise when a base is added to an alkaloidal salt, when an iodide or tannate is added to preparations containing alkaloids, etc., are carefully studied.

This course is required of all Pharmacy students and direct application to the work of the dispensing counter is always emphasized.

Food Analysis.—Since the Pure Food and Drug Law became operative there has been a great demand for trained analysts in this field. This course is designed to meet exactly that demand. Admission to the course is held off from all those not well grounded in qualitative, quantitative, and organic chemistry. As a result, strictly first class work can be demanded of all taking the work.

Analyses are made of such foods as milk, butter, vinegar, meats, extracts, canned goods, baking powder, jellies, etc., and the methods used are all standard—usually those employed by the United States Government.

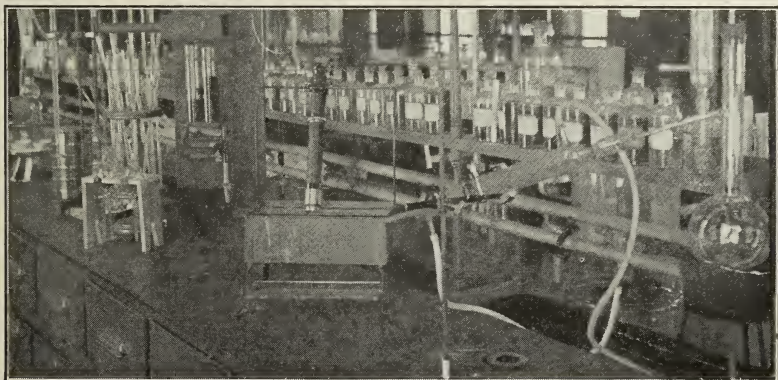
Physiological Chemistry.—In this course lectures and laboratory training are given in those lines of work essential to the physician's correct diagnosis, exclusive of bacteriological methods which are given to



Centrifuge and Related Apparatus Used in Food Analysis

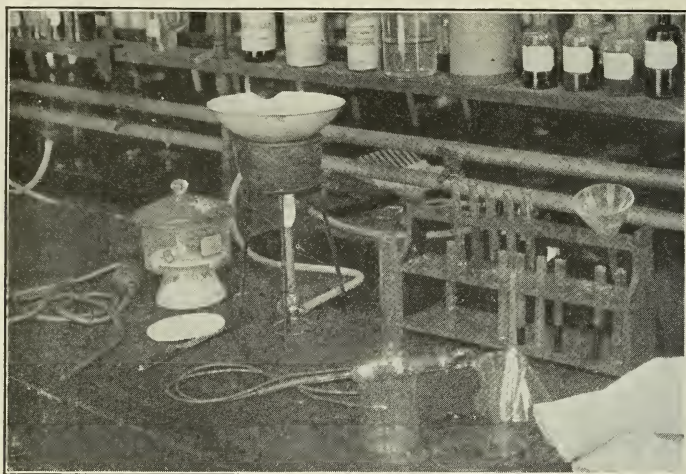
pharmacy students in a separate course. Important features of the laboratory course include direct and differential blood counts, spectroscopic tests for various pathologic hemoglobins, blood tests, hemolysis studies, gastric analysis (Rehfuss Method used), pepsin and other enzyme estimation and study, protein testing, identification of protein split-products, thorough drill on chemical and microscopic urine analysis, bile tests, organ functioning tests, etc.

The pharmacist trained along these lines commands the respect and confidence of any doctor and has a side-line that is interesting, serviceable and valuable.



Apparatus Used in Food and Drug Analysis

Physical Chemistry.—This course is administered in the Chemistry Department and consists of three lecture hours per week for one year. It is not required of Pharmacy students, but may be elected in the Senior year. The lectures deal with the constitution of matter, the general prop-



Apparatus for Stomach Analysis

erties of gases, liquids, and solids, the phenomenon of solutions, and the special topics of electro-chemistry, thermo-chemistry, chemical statics and dynamics, photo-chemistry and the phase rule.

Many of the recent advances in the science of chemistry have been made possible through a study of physical chemistry and much attention is being given to this very important branch of the science.

BIOLOGY*

The courses in Biology cover the following: General Biology, Pharmaceutical Botany, Physiology and Hygiene, and Bacteriology. All of the work is administered in the Biology Department by men who are experts in each line of work. The Pharmacy students enter these classes with other students of the University and enjoy the advantages this contact offers. Purdue has a splendid, new, well-equipped Biology building, and every convenience for good instruction is provided.

Plant Histology and Pharmaceutical Botany.—This course consists of lecture and laboratory work for one year and is required of all Pharmacy students. The first semester is devoted to the study of cell life and constant use of the microscope is required throughout the work. Particular attention is given to the cell structure of medicinal plants as this course prepares our students for the study of microscopy of drugs.

The second semester is devoted to the study of Pharmaceutical Botany and the identification of medicinal plants indigenous to Indiana. Many field trips are taken both in Spring and Fall to give the students opportunity to identify these medicinal plants in their native condition.

Physiology and Hygiene.—An understanding of Physiology and Hygiene is essential to the pharmacist in order to understand the thera-

*See the general catalog for a detailed description of the courses.

peutic action of drugs. This work is fundamental to the study of therapeutics, toxicology, and posology which follows it.

Physiology and Hygiene for the Two-Year students in Pharmacy consists of three lecture and demonstration hours per week for one semester. For the Four-Year students it consists of three lecture and demonstration hours per week for a year. The fundamental principles of



Apparatus for Microscopic Analysis

Anatomy, Physiology, and Hygiene are presented to give the students a clear understanding of the activities of the human body. The work is presented by the University Physician, a man well qualified to give the instruction.

Bacteriology.—Bacteriology has ceased to be a subject of importance to the medical profession only, but has become intimately associated with the work of the pharmacist and dentist.

In the various courses in Bacteriology designed to meet the pharmacist's special needs, attention is given to the following lines of study: methods of sterilization; preparation of the various media; detection, isolation and identification of bacteria, moulds, yeasts, and protozoa and the role they play in nature is expounded. The bacteriology of air, milk, soil and water is studied.

The way in which micro-organisms produce disease, methods of increasing and decreasing their virulence; the production of immunity; their sources of infection, avenues of entrance and the way they leave the diseased body and the methods of prevention are carefully considered.

Animal inoculation, post-mortem examinations, and special staining methods are employed for diagnostic work.

Testing of antiseptics and disinfectants; determining the phenol-coefficient; the preparation of tuberculin, diphtheria and tetanus toxins; antitoxic and anti-infectious sera; serum reactions; and immunization of animals, preparation of special glass-ware, vials, pipettes, collodium sacs, etc. The drawing of blood, collection and sterilization of serum, and the filtration of bacteria fluids, receive careful study.

Blood parasites such as spirochetes, trypanosomes, plasmodia, etc., will be studied in living and stained condition and their special cultivation. Invisible organisms and inoculation for rabies are taken up.



Bacteriology Laboratory

The preparation of "autogenous" and "stock" bacterial vaccines; antirabic treatment; agglutinins, precipitins, cytolyins, opsonins, are studied. Special attention is given to the identification of blood and the Wassermann reaction for syphilis.

ENGLISH, MATHEMATICS, PHYSICS, MODERN LANGUAGES, HISTORY AND ECONOMICS*

Purdue maintains excellent departments of English, Mathematics, Physics, Modern Language, History and Education.

These departments administer to the needs of all students of the University. They offer the usual cultural courses, and, in addition, special courses to fit the needs of the different schools of the University.

MILITARY TRAINING

The act of Congress endowing the University requires that Military Science and Tactics be taught. In order to receive the benefits of recent legislation, and to afford an outlet and stimulus for the work, the Military Department is administered as a unit of the Reserve Officers' Training Corps. The course of instruction is both practical and theoretical in Field Artillery service, and is under the direction of an officer of the United States Army, detailed for that purpose, assisted by officers and non-commissioned officers from the Regular Army.

Military Training is compulsory for all physically fit, non-alien, male students of the two lower classes. Excuses are granted only in exceptional cases, and then only in accordance with the published regulations of the R. O. T. C. unit. Aside from the advantage of military knowledge,

*See the general catalog for a detailed description of the courses.

the benefits of healthful exercise, strict discipline and the tendency to correct minor physical defects make this course a valuable adjunct to University life.

Military Training is optional for Juniors and Seniors. Students enrolled in the advanced R. O. T. C. courses receive credit toward graduation for the work done.

Under no condition can the members of the Reserve Officers' Training Corps at Purdue be called out for active service. It is an organization fostered by the federal government for instructional purposes only.

The U. S. Government will provide each cadet with a complete uniform and the equipment of a Field Artillery soldier, or the money equivalent. To cover any loss of or damage to the uniforms, except that due to fair wear and tear, to pay for books not procurable commercially, and to pay for such articles of uniform as are not furnished by the government, it is required that \$15 be deposited with the Military Department at registration. The balance remaining when the student has completed his military instruction or has become separated from the University, will be returned to the student.

FAIRCHILD SCHOLARSHIP IN PHARMACY

This scholarship of \$300 is offered annually by Mr. Samuel W. Fairchild, of New York City, to further research in pharmacy. It is awarded on the basis of a competitive examination to candidates who are high school graduates and who have successfully finished their first year's work in a school or college of pharmacy or department of pharmacy of a university, member of the American Conference of Pharmaceutical Faculties. Each school, college or department of pharmacy is limited to two candidates.

INSPECTION TRIP

An annual inspection trip requiring two days is provided for the Senior students. One day is spent in the city of Indianapolis inspecting the most important professional and commercial pharmacies, the wholesale drug houses, glass factory, etc. The second day is devoted to the inspection of Eli Lilly & Co.'s manufacturing laboratories, their biological plant and drug plant gardens.

The inspection trip is made a part of the course and is conducted as a class exercise, especial attention being called to all important operations.



Well Wrapped and Poorly Wrapped Packages

DIRECTORY OF THE ALUMNI FOR THE YEARS 1911-1920

NOTICE TO ALUMNI

Since changes in location and position are made frequently, it is almost impossible to keep a printed directory up to date. In the Registrar's Office a Card Index Directory is kept and changes made as soon as information of change is received. We earnestly request the Alumni to notify the Registrar's Office of any change in location or position, that this Card Index Directory may be accurate, and correct information concerning the activities of classmates supplied.

GRADUATES OF 1911

Degree of Pharmaceutical Chemist

- A. L. BOLLINGER, Proprietor of Bollinger Drug Company, Louisville, Ky.
- H. O. BUSH, General Lumber and Tie Inspector, Erie Railroad Company, 50 Church St., New York.
- L. H. CLEVINGER, Pharmacist, Eaton, Ind.
- R. G. CROWDER, Pharmacist, Oak Hill Pharmacy, Terre Haute, Ind.
- C. DERBYSHIRE, Sales Department, Tractor-Train Company, Connersville, Ind.
- L. G. DRISKELL, Pharmacist, Francis Pharmacy Company, Indianapolis, Ind.
- H. W. FLEMING, Pharmacist, Betles' Pharmacy, 1406 E. Church St., Jacksonville, Fla.
- O. G. GASKILL, Pharmacist, Markle, Ind.
- M. GENOLIN, Owner, Genolin's Drug Store, Rankin, Ill.
- B. M. GILDERSLEEVE, Owner, Gildersleeve Drug Store, Kansas, Ill.
- K. H. GOHMANN, Pharmacist, U. S. Public Health Service, Chicago, Ill.
503 Elm St., New Albany, Ind.
- R. C. HARDIN, Proprietor, Hardin Drug Company, Robinson, Ill.
- F. S. HAYWARD, Manager, Hayward Drug Store, Rosedale, Ind.
- G. W. IRWIN, Proprietor, Irwin Pharmacy, Roachdale, Ind.
- HAZEL LOEHR, (Mrs. H. J. Schilling), Pharmacist, Home Hospital, 655 Perrin Ave., LaFayette, Ind.
- R. L. LOSER, Manager, Meyer Brothers, 602 Calhoun St., Ft. Wayne, Ind.
- W. S. MILLER, Chief Chemist, Chas. C. Kawin Co., 94 Dun Bldg., Buffalo, N. Y.
- E. H. MILLS, Manager, Kingston Drug Company, Kokomo, Ind.
- R. E. MORSE, Deceased.
- G. T. NANTZ, Pasadena Ice Company, 5916 Marimon Bldg., Los Angeles, Cal.
- F. A. OPEL, Proprietor, Steger Pharmacy, 4 E. 34th St., Steger, Ill.
- A. L. PAYNTER, Pharmacist, Chapple Drug Co., Billings, Mont., 124 N. 34th St., Billings, Mont.
- T. O. PHILPOTT, President and Manager, Philpott Drug Company, Inc., 902 N. Illinois St., Indianapolis, Ind.
- P. P. PIERCE, Chief Chemist, Nordyke & Marmon, Indianapolis, Ind.
- Dr. JORGE A. QUINTERO, Proprietor, Quintero's Farmacia, Yaguarama, Provincia de Sta Clara, Cuba.
- G. W. RIPLEY, Treasurer and Manager, Clemmer & Johnson Co., Metropolitan Bldg., Akron, Ohio.
- S. O. ROY, Partner, City Drug Store, Sardis, Miss.

- C. RUSSELL, Manager, Ellett Drug Company, Rockville, Ind.
 O. G. SALB, Chief Chemist, Kirk Chemical Company, Memphis, Tenn.
 V. M. SALB, Proprietor, Crescent Pharmacy, Jasper, Ind.
 J. E. SEYBERT, Pharmaceutical Chemist, Eli Lilly Company, 304 Kenmore Rd., Indianapolis, Ind.
 G. M. SHEWALTER, Physician, 122½ South Anderson St., Elwood, Ind.
 S. G. SILVERBURG, General Manager, Owl Drug Stores, Inc., Terre Haute, Ind.
 D. C. SINGLETARY, with Standard Oil Company, P. O. Box 413, H. B. Ranch House, Huntington Beach, California.
 H. J. STEINING, Secretary, Wells-Yeager-Best Company, 213 N. 11th St., LaFayette, Ind.
 O. H. STONE, in charge of Stock Departments, Ross Gear & Tool Company, LaFayette, Ind.
 L. C. THOMASON, Address Unknown.
 B. H. THOMPSON, Manager, Goodrich Rubber Company, 312 S. 4th St., Springfield, Ill.
 C. V. TIMMONS, Pharmacist, Blue Drug Store, Peru, Ind.
 E. H. VELLINGER, Joint Proprietor, Haywood-Vellinger Drug Company, 834 Main St., LaFayette, Ind.
 C. R. WEBER, Deceased.
 H. WILLIAMS, Pharmacist, Alvarado Pharmacy, Albuquerque, N. Mex.

GRADUATES OF 1912

Degree of Pharmaceutical Chemist

- C. H. BERNIS, Proprietor, Bernis' Pharmacy, Dugger, Ind.
 H. W. CONLIN, Secretary, Plaster Drug Co., Danville, Ill.
 C. J. EASLEY, Proprietor, Easley's Pharmacy, Clay City, Ind.
 M. D. FAIRMAN, Pharmacist, Phillippi's Pharmacy, 30th and Illinois Sts., Indianapolis, Ind.
 W. H. FOERSTER, Pharmacist, Wayne Pharmacal Co., 2017 Maumee Ave., Ft. Wayne, Ind.
 E. T. GREENE, Proprietor Restaurant, 234 S. Illinois St., Indianapolis, Ind.
 E. F. GUTHRIE, Proprietor, Guthrie's Pharmacy, 112 Burlington Ave., Logansport, Ind.
 R. B. HARVEY, Assistant Professor of Plant Physiology, University of Minnesota, Minneapolis, Minn.
 H. W. HEINE, Proprietor, Heine's Pharmacy, Logansport, Ind.
 A. V. KLEIN, Pharmacist, E. H. Miller Company, 3202 Victoria Ave., Ft. Wayne, Ind.
 C. E. LAWSON, Chief Chemist, Furst & McNess Company, Freeport, Ill.
 F. D. LEEDS, Wearing Apparel Buyer, National Cloak & Suit Co., New York.
 R. E. PHELPS, Proprietor, Phelps' Pharmacy, Martinsville, Ind.
 C. R. POWELL, Druggist, 450 N. Senate Ave., Indianapolis, Ind.
 J. M. QUIGLEY, Pharmacist, Rothinghouse Brothers Co., Alexandria, Ind.
 L. G. RAINIER, Proprietor, Rainier's Pharmacy, Hartford City, Ind.
 H. F. SMITH, Manager, Meyer Drug Company, 806 Broadway, Gary, Ind.
 G. L. SNYDER, Manager, United Retail Chemists, Jersey City, N. J.

GRADUATES OF 1913

Degree of Bachelor of Science in Pharmacy

- B. W. THOMPSON, Ph. C. '09, Pharmacist, Flaherty's Pharmacy, 6155 English Ave., Springfield, Ill.

Degree of Pharmaceutical Chemist

- H. EMERSON, Ranch Owner, Fruita, Colo.
 E. J. ENDRIS, Chemist, Prest-O-Lite Company, Indianapolis, Ind.
 W. J. GIFT, Proprietor, Gift's Pharmacy, Converse, Ind.
 BERTHA HATTEN, (Mrs. J. A. Whitsell), R. R. No. 3, Twin Falls, Idaho.
 A. S. HENRY, Chemist, Peruna Company, Columbus, Ohio.
 W. M. KNAPP, Proprietor, Knapp's Pharmacy, Washburn, Ill.
 J. B. LANSLEY, Pharmacist, Kimball Hayes Company, Anderson, Ind.
 R. M. WAGGONER, Proprietor, Waggoner's Pharmacy, 804 S. 7th St., Terre Haute, Ind.

GRADUATES OF 1914

Degree of Bachelor of Science in Pharmacy

- W. M. ALDRICH, Manager and Owner, Norwich-Utica Motor Express Lines, 59 Birdsell St., Norwich, N. Y.
 D. C. BEACH, Pharmaceutical Research Chemist, Norwich Pharmacal Co., Norwich, N. Y.

Degree of Pharmaceutical Chemist

- W. M. ALDRICH, see Bachelor of Science for 1914.
 D. C. BEACH, see Bachelor of Science for 1914.
 C. A. BENWARD, Proprietor, Benward & Briggs, Churubusco, Ind.
 W. N. BURNS, Vice-President, Burns & Davis Drug Co., Otterbein, Ind.
 R. I. DAVIS, Quartermaster Chief Clerk, Marion Branch, Disabled Veteran Soldiers, National Military Home, Ind.
 W. B. DONHAM, Assistant Cashier, The Bicknell Trust & Savings Co., Bicknell, Ind.
 NELLIE EARHART, (Reiter), Deceased.
 H. E. EBERHARD, Member of the firm, J. H. Keiser Drug Company, Columbia City, Ind.
 J. I. GROOM, Chemist, Illinois Steel Co., 806 Broadway, Gary, Ind.
 C. G. McBRIDE, Automobile Business, Paoli, Ind.
 G. A. MEIHAUS, Production Superintendent, Eli Lilly Co., Indianapolis, Ind.
 C. MOAD, City Chemist for Ft. Wayne, 1707 Bayer Ave., Ft. Wayne, Ind.
 A. H. NEUKOM, Proprietor, Neukom Pharmacy, Terre Haute, Ind.
 J. G. PORTER, Proprietor, Porter's Pharmacy, Tipton, Ind.
 G. B. PURKEY, Deceased.
 W. W. WAGNER, Pharmacist, Hook Drug Company, LaFayette, Ind.
 F. E. WAUGH, Proprietor, F. E. Waugh Drugs, Attica, Ind.

GRADUATES OF 1915

Bachelor of Science in Pharmacy

- E. H. WESTLUND, Head of Chemistry Department, High School, Decatur, Ill.

Pharmaceutical Chemist

- D. B. ADAMS, Partner, Reed & Adams, Delphi, Ind.
 L. ATKINSON, Proprietor, Fair Drug Store, 2142 E. Grand Blvd., Detroit, Mich.

- J. C. BEYER, Manager and Joint Proprietor of Fairfield Pharmacy, 2012 Fairfield Ave., Ft. Wayne, Ind.
- R. L. CIMMERMAN, Asst. Manager, West Drug Stores, 91-93 Monroe Ave., Grand Rapids, Mich. Home Address, Waverly Apts., Waverly Place, Grand Rapids, Mich.
- F. M. CRAVENS, Proprietor, Cravens' Pharmacy, Noblesville, Ind.
- W. J. DARE, Manager, Drier Drug Company, 1402 Calhoun St., Ft. Wayne, Ind.
- W. W. EHRHARDT, Pharmacist, St. John & Guthrie, Greensburg, Ind.
- BEATRICE FANSLER, see Bachelor of Science for 1917.
- C. H. GREEN, Home Address, 311 Jackson St., North Vernon, Ind.
- V. S. HEATH, Farmer, Sandborn, Ind.
- H. HOLMES, Home Address, R. R. No. 5, Bloomfield, Ind.
- ALMA LITTELL, (Mrs. J. H. Shores), Box 965, Coalings, Cal.
- W. T. ROOT, Construction Manager, Prairie Pipe Line Company, Box 563, Tulsa, Okla.
- W. C. ROYSE, Pharmacist, Owl Drug Company, 431 S. 5th St., Terre Haute, Ind.
- R. M. SMITH, Proprietor, Smith's Pharmacy, Inc., 10th and Main Sts., Vincennes, Ind.
- M. W. TAM, Proprietor, Tam Drug Store, Macon, Miss.
- E. H. WESTLUND, see Bachelor of Science for 1915.

GRADUATES OF 1916

Degree of Bachelor of Science in Pharmacy

- E. F. CRABB, Gillis Pharmacy, Clinton, Ind.
- NELLIE EARHART, (Reiter), Deceased.
- D. J. KAY, Chemist, Loose-Wiles Biscuit Co., Long Island City, N. Y.
- M. E. PARKER, Asst. Supt. of Shipping Division, Eli Lilly & Co., 1902 Bellefontaine St., Indianapolis, Ind.
- W. L. THOMS, Pharmacist, H. E. Franer & Co., 456 E. Washington St., Indianapolis, Ind.

Degree of Pharmaceutical Chemist

- V. BAUGHER, Pharmacist, Wells-Yeager-Best Drug Company, LaFayette, Ind.
- J. E. BRADY, Joint Proprietor, White & Brady, Winchester, Ind.
- T. E. BURNS, Pharmacist, Hook Drug Company, LaFayette, Ind.
- B. T. CHILDS, Manager, Capsule Plant, Eli Lilly Co., Indianapolis, Ind.
- E. F. CRABB, see Bachelor of Science for 1916.
- A. E. DENISON, Pharmacist, Gillis Drug Co., 815 Beech St., Terre Haute, Ind.
- L. FISHER, Proprietor, Fisher's Pharmacy, Ridgeville, Ind.
- K. A. GROOM, Chemist, Illinois Steel Co., 322 W. 8th Ave., Gary, Ind.
- L. S. HAWKINS, Pharmacist, Stokes Pharmacy, Indianapolis, Ind.
- L. O. HILL, Superintendent and Production Manager, Kolynos Dental Cream Company, New Haven, Conn.
- K. W. HOFF, Asst. Chief Chemist, Kolynos Dental Cream Company, New Haven, Conn.
- M. L. KAUFFMAN, Home Address, 536 E. Oak St., Princeton, Ind.
- D. J. KAY, see Bachelor of Science for 1916.
- M. E. PARKER, see Bachelor of Science for 1916.
- R. D. RICHESON, Chemist, Miller Tire & Rubber Co., Akron, Ohio.
- G. F. STRICKFADEN, see Bachelor of Science for 1918.
- W. L. THOMS, see Bachelor of Science for 1916.
- R. B. WILKINS, Sales Dept., B. F. Goodrich Company, 76 Hawthorne Ave., Akron, Ohio.
- D. U. WILLIAMS, Partner, L. B. Williams & Son, Marble and Granite Monuments, Spencer, Ind.



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GRADUATES OF 1917

Degree of Bachelor of Science

BEATRICE FANSLER, Ph. C. 1915, Head of Chemistry Dept., Senior High School, 1718 S. Washington St., Marion, Ind.

Degree of Pharmaceutical Chemist

- J. F. BERRY, Pharmacist and Manager, Gocke Drug Co., 2473 Barnes Ave., Indianapolis, Ind.
- G. BORDERS, Pharmacist, Arnett's Drug Store, Rural and E. 10th Sts., Indianapolis, Ind.
- B. H. BOWLES, Pharmacist, Francis Pharmacy Co., Indianapolis, Ind.
- T. A. BRAMBLE, Druggist, 309 North 2nd St., Vincennes, Ind.
- P. L. BURRIN, in Charge of Pharmaceutical Inspection, Eli Lilly Co., Audubon Court No. 2, Indianapolis, Ind.
- T. C. COLLIER, Pharmaceutical Chemist, Eli Lilly Co., Indianapolis, Ind.
- R. M. DWYER, Winter Haven Chemical Plant, Winter Haven, Florida.
- F. J. FRIDY, Proprietor, North Side Pharmacy, 1301 Main St., Evansville, Ind.
- F. W. GOHMANN, Pharmaceutical Chemist, G. H. Gould & Son, Louisville, Ky.
- A. E. GUTHRIE, Chief Chemist, Peninsular Smelting and Refining Co., 159 Jos. Campia Ave., Detroit, Mich.
- H. H. HEDGCOCK, see Bachelor of Science for 1919.
- L. R. HESS, in Charge of the Dental Gold Mfg., Shreve & Co., San Francisco, California.
- J. H. HEWARD, Partner, P. & H. Drug Store, Chesterton, Ind.
- P. HOOVER, Proprietor, Hoover's Pharmacy, Attica, Ind.
- V. B. HOOVER, Auto Salesman, W. I. Hoover & Son, Rensselaer, Ind.
- M. C. JOHNS, Proprietor, Gary Drug Company, 1650 Adams St., Gary, Ind.
Residence 577 Delaware St., Gary, Ind.
- R. D. JOHNSON, Pharmacist, National Home for Disabled Veteran Soldiers, Marion, Ind.
- M. C. McCALLUM, Chief Pharmacist's Mate, U. S. N., U. S. S. Quincy, care Postmaster, New York City.
- F. D. PALMER, Owner, Drug Store, Fountain City, Ind.
- G. B. SKENE, Proprietor, Brunner's Pharmacy, Res. 1107 N. 13th St., Terre Haute, Ind.
- J. L. WENDT, Proprietor, Scheddell & Wendt Bros., Crown Point, Ind.
- W. K. WENDT, Proprietor, Scheddell & Wendt Bros., Crown Point, Ind.
- S. WILLIAMS, Prescription Clerk, Kute Drug Co., Elwood, Ind.

GRADUATES OF 1918

Degree of Bachelor of Science in Pharmacy

- T. L. HASBROUCK, Home Address, 7704 Union Ave., Chicago, Ill.
- G. E. STRICKFADEN, Chemist and Bacteriologist, Dept. of Health, East Chicago, Ind.

Degree of Pharmaceutical Chemist

- R. E. BURRIN, Pharmaceutical Chemist, Eli Lilly Co., Indianapolis, Ind.
- T. L. HASBROUCK, see Bachelor of Science for 1916.